(No Model.)

J. B. KNITTEL.

SOUND INTENSIFYING DEVICE FOR MUSICAL INSTRUMENTS.

No. 567,480. Patented Sept. 8, 1896.

Fig. 1.

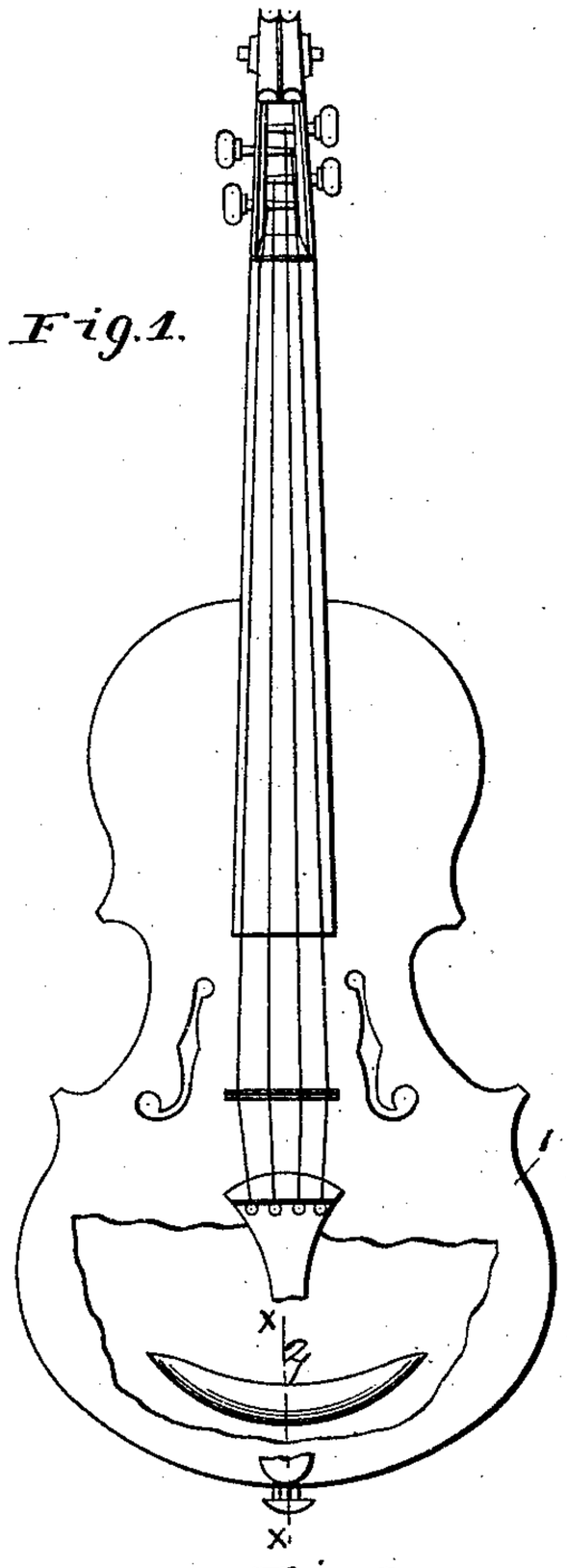


Fig. 4.

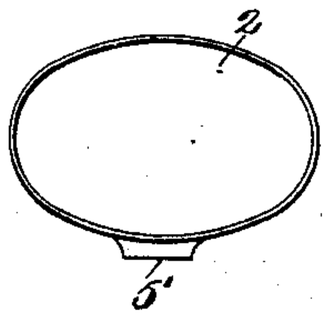


Fig. 2.

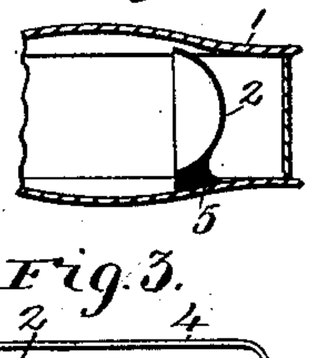


Fig. 5.

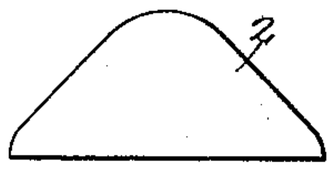
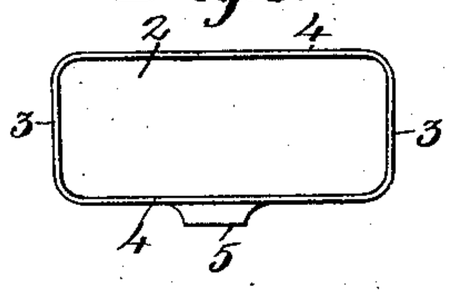


Fig. 3.



Witnesses
Alfred A. Mithey
W. B. Wells

Inventor
Jno. B. Knittel.
By his Attorneys,
Miller & Starck

UNITED STATES PATENT OFFICE.

JOHN B. KNITTEL, OF ST. LOUIS, MISSOURI.

SOUND-INTENSIFYING DEVICE FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 567,480, dated September 8, 1896.

Application filed November 2, 1895. Serial No. 567,767. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. KNITTEL, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Sound-Intensifying Devices for Musical Instruments, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in sound-intensifying devices for musical instruments; and it consists in the novel arrangement and combination of parts more fully set forth in the specification, and pointed out in the claims.

In the drawings, Figure 1 is a front elevation of a violin with a portion of the front wall broken away, showing my attachment secured to the back wall of the instrument. Fig. 2 is a cross-section on the line *x x* of Fig. 1. Fig. 3 is a top plan view of the attachment. Fig. 4 is a top plan view of a modified form of the attachment; and Fig. 5 is a side elevation of the same.

The object of my invention is to construct an attachment for stringed instruments which, when secured to the body of the same, shall act as an intensifier of the sound ordinarily emitted from the instrument, the device serving to collect or focus the sound-waves set into motion by the instrument and then subsequently emit them, the result of which operation is an apparent increase in the volume of sound emitted, a better and louder sound for each individual string, and a tendency to equalize the strength or volume of sound emitted by the several strings. To this end I have devised an attachment which in detail may be described as follows:

Referring to the drawings, 1 represents an ordinary violin, to the inner surface of the back of which is secured a suitable dish-shaped shell or cup 2, the said cup having any suitable number of sides inclining from the edges of the open end thereof to a common center. The cup may be made of wood, metal, gutta-percha, or any other suitable material.

In Figs. 1, 2, and 3, I have shown a hollow or concave cup having two short edges 3 3 and two long lateral edges 4 4, said edges forming the terminals of four corresponding walls inclined toward a common center, giving the attachment the shape of a four-cornered dish having a perfectly rounded bottom and sides. To the outside of one of the lateral walls, and forming preferably an integral part of said wall, is a lug 5, by which the attachment may be glued or otherwise secured to the inner wall of the back of the violin, the concavity of the dish thus facing in a direction parallel to the surface of the wall to which the device is secured; and the edges of the open end of the cup are substantially at right angles to the strings, or to the plane of the sounding-board.

In Figs. 4 and 5 I have shown a cup having a substantially elliptical edge and inclined walls so as to present the appearance of an elliptical cup or basin. This, too, is provided with a lug 5′, by which it may be secured to the instrument.

In all cases the attachment must be hollow or dish-shaped—that is to say, the sound-collecting surface thereof should have a certain degree of concavity for the reception and concentration of the sound-waves which it is intended it should reflect. The edge of the cup should be free to vibrate and should be intact for its entire perimeter, the only point of attachment of the cup being the securing-lug carried at a convenient point along one of the walls thereof.

Although the device is here illustrated in connection with a violin, it is equally applicable to all instruments of a stringed character, such as the banjo, guitar, and the like.

Having described my invention, what I claim is—

1. In a stringed musical instrument, a sound-intensifying device comprising a hollow dish-shaped cup, and suitable means for securing the cup to the musical instrument with the cavity of the dish facing in a direction to bring the edges of the open end of the cup in a plane substantially at right angles to the strings, substantially as set forth.

2. A sound-intensifying device for musical instruments comprising a suitable cup, a sound-collecting surface forming a part of the same, and a lug carried by the outer lateral wall of the cup for securing the cup to the instrument in a direction as to bring the plane of the edges of its open end substantially at right angles to the plane of the surface carrying the cup, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN B. KNITTEL.

Witnesses:

ALFRED A. MATHEY,

E. STAREK.